REMARKS

Reconsideration and allowance of the present application are respectfully requested. Claims 1-13 remain pending in the application. By this Amendment claims 1, 4, 8 and 9 are amended.

INTERVIEW SUMMARY

A telephone interview was conducted between Examiner Ryan Hsu and the undersigned on May 12, 2009. The remarks below discuss the substance of the interview.

A Notice of Allowance was issued on October 6, 2008. Subsequently, Applicant received an European Search Report in connection with the corresponding European patent Application. In order to obtain the Examiner's consideration, Applicant filed a Request for Continued Examiner (RCE) with an Information Disclosure Statement (IDS) submitting the European Search Report and the references cited therein on December 11, 2008. As a result, a non-final Office Action was issued on March 19, 2009, including claim rejections under 35 U.S.C. §101, 35 U.S.C. §112, second paragraph, and prior art rejections at least partly based on one of the references submitted in the December 11, 2008 IDS, i.e., Tsubaki et al. to U.S. Patent 5,815,138 (hereinafter "Tsubaki").

However, during the interview, the Examiner asserted that there was no distinction between the invention and conventional cursor control systems, such as a mouse, or a joystick. The undersigned asked why a Notice of Allowance was issued on October 6, 2008 if the Examiner did not think that there was distinction between the invention and a conventional cursor control system. The Examiner indicated

that his assertion was based on his reconsideration of the invention after reviewing the submission in the December 11, 2008 IDS.

During the interview, the Examiner and the undersigned discussed the features of the invention. However, no agreement was made regarding whether those features distinguished the invention over a conventional cursor control system.

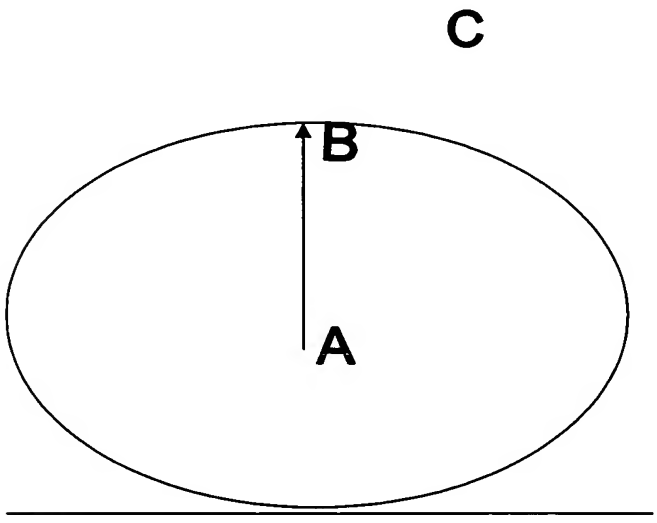
THE PRESENT INVENTION IS DISTINCTIVE OVER CONVENTIONAL CURSOR CONTROL

In the present application, even though the Examiner is entitled to issue new claim rejections after submission of references in the December 11, 2009 IDS, it is respectfully submitted that the Examiner's interpretation of the claims should be based on the claim recitations, and should not be affected by the interpretation of the submitted references.

There are clear distinctions between the invention and conventional cursor control. According to exemplary embodiments of the present invention, a plurality of points are set in a display screen displaying a graphic picture, and a path that circulates through vicinities of the points is calculated. FIG. 3 shows an exemplary embodiment of the plurality of points and the calculated path. In FIG. 3, the regions 301, 302, 303, 304 and 305 show points in the display screen. In FIG. 3, the points are visible for explanation purposes. However, the points may be invisible in an actual game so the player can discover a point in the game. In FIG. 3, reference numeral 310 denotes a path which circulates through the vicinities of coordinate positions of the points 301 to 305.

FIGS. 7A and 7B provide examples of directions in which the joystick 107 can be tilted, and the corresponding moving directions of the cursor. In FIGS. 7A and 7B, when a joystick 107 is tilted in the direction indicated by 701, the coordinate position of the intersection point of the path 310 and a line segment 751 extending from a predetermined point, e.g., the barycentric position 710 of all the points 301 to 305, is calculated. The line segment 751 extends from the point 710 in a direction corresponding to the direction in which the joystick 107 is tilted. The display position of the cursor is then moved to the coordinate position of this calculated intersection point, regardless the initial position of the cursor.

The following figure, illustrating the cursor control according to exemplary embodiments of the present invention, shows clear distinctions of cursor control between the present invention and conventional systems.



In the figure above, it is assumed that a cursor has a initial position of C. According to exemplary embodiments of the present invention, if a joystick is tilted up, in the direction along the line shown in the above figure, the intersection point

between a calculated path, shown as the ellipse, and a line extending from a predetermined position in the region surrounded by the path, e.g., point A shown in the above figure, is calculated. In this example, the intersection point is shown as point B. The cursor is moved from point C to point B.

In the above example, according to a conventional cursor control, if a joystick is tilted up, the cursor will move from the initial position, point C, to a point that is above point C.

However, according to exemplary embodiments of the present invention, if a joystick is tilted up, the cursor moves from the initial position, point C, to point B, which is in fact below point C. Unlike a conventional cursor control, therefore, the direction of movement of the cursor need not be the same as the direction of movement of the joystick.

In addition, according to exemplary embodiments of the present invention, after the cursor is moved to intersection point, e.g., point B, the cursor can only move along the path. In contrast, a conventional cursor control does not teach or suggest that a cursor can only move along a calculated path.

The above example is an illustration of the distinctions between exemplary embodiments of the present invention and conventional cursor control. It is noted that distinctions between exemplary embodiments of the present invention and conventional cursor control are not limited to the above example.

The features of exemplary embodiments of the present invention are encompassed in the claims. For example, claim 1 recites path calculation means for calculating a path which circulates through vicinities of positions of the points on the basis of coordinate positions of the points in the display screen, each of the points

being associated with a respective object in an image displayed in the display screen; intersection point coordinate position calculation means for calculating a coordinate position of an intersection point of the path and a line segment extending from a predetermined coordinate position in a region surrounded by the calculated path, said line segment extending in a direction corresponding to an input direction; and display control means for moving a display position of the cursor to the calculated intersection point coordinate position; and confining movement of the cursor thereafter along the calculated path. It is noted that the movement of the cursor depends on the results of calculations of the path and the intersect position between the path and the line segment. Unlike conventional cursor control, the point to which the cursor is moved to is independent of the initial position of the cursor.

RESPONSE TO CLAIM REJECTION UNDER 35 U.S.C. §101

Claim 9 is rejected under 35 U.S.C. §101 for allegedly being directed to non-statutory subject matter. To address the Examiner's concerns, claim 9 is amended. For example, claim 9 is amended to recite, among other features, "moving a display position of the cursor in the display screen to the calculated intersection point coordinate position; and confining movement of the cursor thereafter in the display screen along the calculated path. Applicant respectfully submits that claim 9 describes a method that is tied to a particular apparatus, e.g., a display screen, and thus, obviates the rejection. Withdrawal of the rejection under 35 U.S.C. §101 is respectfully requested.

RESPONSE TO REJECTION OF CLAIMS 1-13 UNDER 35 U.S.C. §112

Claims 1-13 are rejected under 35 U.S.C. §112, second paragraph, for allegedly being indefinite. Applicant respectfully traverses the Examiner's various assertions with regards to the claimed subject matter.

Although the Examiner variously alleges lack of clarity with regard to "information", "input", "initial point" and "input device", the control of the cursor as Applicant has clearly disclosed and distinctly claimed relates to moving of a cursor to a position of an intersection point of a path and a line segment based on a calculated path and a calculated coordinate position of an intersection point of the path and a line segment extending from a predetermined coordinate position. As shown in the above discussion regarding exemplary embodiments of the present invention, the calculation of the path and the calculation of the intersection point are independent of the initial position of the cursor. Therefore, it is unnecessary to describe the initial point of the input device in the claims.

However, to better clarify the claimed feature and to clearly address the Examiner's concerns, the claimed aspect is amended to clearly recite that the line segment extends from a predetermined coordinate position in a region surrounded by the calculated path, said line segment extending in a direction *corresponding to an input direction*. Applicant respectfully submits that the claims now obviate the rejection. Withdrawal of the rejection under §112, second paragraph, is respectfully requested.

RESPONSE TO REJECTION OF CLAIMS 1-13 UNDER 35 U.S.C. §§ 102 and 103

Claims 1 and 3-13 are rejected as being anticipated by Tsubaki. Claim 2 is rejected as being unpatentable over Tsubaki, and further in view of Keyson (U.S. Patent 5,784,052). These rejections are respectfully traversed.

Claim 1 recites path calculation means for calculating a path which circulates through vicinities of positions of the points on the basis of coordinate positions of the points in the display screen, each of the points being associated with a respective object in an image displayed in the display screen. As relied upon by the Examiner, Tsubaki discloses a deciding section which detects a selectable area located in the direction detected by the direction detecting section (col. 10, lines 27-29). Specifically, Tsubaki discloses that the deciding section 56 determines a direction for moving a cursor on a display 14 in response to coordinates data fed from a coordinates identifying section 52 and direction data fed from a direction detecting section 54 (col. 6, lines 8-12). However, Tsubaki does not disclose the claimed calculation of a path which circulates through vicinities of positions of the points on the basis of coordinate positions of the points in the display screen, each of the points being associated with a respective object in an image displayed in the display screen, as recited in claim 1. For example, Tsubaki discloses that if the coordinates data in the direction indicated by the direction data is not coincident with or approximate to any one of the coordinates of the function buttons, the deciding section 56 invalidates the direction data fed from the direction detecting section 54 and does not change the position data representative of the current cursor position (col. 6, lines 33-39). In contrast, Applicant's claimed path calculation encompasses a

path which circulates *through vicinities of positions of the points*, which can lead to moving a cursor to a calculated position on the path.

Claim 1 further recites intersection point coordinate position calculation means for calculating a coordinate position of an intersection point of the path and a line segment extending from a predetermined coordinate position in a region surrounded by the calculated path, said line segment extending in a direction corresponding to an input direction. As relied upon by the Examiner, Tsubaki discloses a coordinates identifying section 52, which receives data indicative of the positions of function buttons 72, generates coordinates data representative of the coordinates of the function buttons 72, on the screen 70 (step S601; col. 8, lines 25-29). However, Tsubaki fails to teach or suggest calculating a coordinate position of an intersection point of a path and a line segment.

Further, Tsubaki fails to teach or suggest that a line segment which extends from a predetermined coordinate position in a region surrounded by the calculated path, said line segment extending in a direction corresponding to an input direction, as recited in claim 1. Rather, as relied upon by the Examiner, Tsubaki discloses a joystick 16 manipulated by an operator (step S602), which causes data representative of the operator's manipulation being sent from the joystick 16 to the direction detecting section 54 via the input interface 20 (col. 8, lines 32-35). In response, the direction detecting section 54 detects a component, or vector, indicative of a direction for moving the cursor 74 on the screen 70 out of the data received from the input interface 20 (col. 8, lines 35-38).

Claim 1 further recites display control means for moving a display position of the cursor to the calculated intersection point coordinate position; and confining movement of the cursor thereafter along the calculated path.

Since Tsubaki does not disclose a calculated path, nor a calculated intersection point coordinate position, as explained above, Tsubaki does not teach or suggest moving a display position of the cursor to the calculated intersection point coordinate position or confining movement of the cursor thereafter in the display screen along the calculated path.

Therefore, Tsubaki does not teach or suggest the features of the exemplary embodiments of the disclosure, e.g., first calculating a path 310 that passes through certain points, and then calculating the coordinate position of the intersection point of the path 310 and a line segment 751 extending from a predetermined point, e.g., the barycentric position 710 of all the points 301 to 305, in a direction corresponding to the direction in which the stick 107 is tilted. Further, Tsubaki does not teach or suggest moving the cursor to the coordinate position of the intersection point, and confining movement of the cursor thereafter in the display screen along the calculated path.

Keyson does not cure the deficiencies of Tsubaki patent. Rather, Keyson was applied by the Examiner for its disclosure of a trackball capable of 3D coordinates input into a data processing system.

According, Tsubaki, considered individually or in the combination with Keyson as Examiner has suggested, would not have taught or suggested calculating a path which circulates through vicinities of positions of the points on the basis of coordinate positions of the points in the display screen, each of the points being associated with

a respective object in an image displayed in the display screen; calculating a coordinate position of an intersection point of the path and a line segment extending from a predetermined coordinate position in a region surrounded by the calculated path, said line segment extending in a direction corresponding to an input direction, moving a display position of the cursor to the calculated intersection point coordinate position; and confining movement of the cursor thereafter in the display screen along the calculated path, as variously recited in claims 1, 8 and 9.

In view of the foregoing, claims 1, 8 and 9 are patentable. The remaining claims are patentable at least because of their respective dependencies.

CONCLUSION

For the foregoing reasons, Applicant's claims1, 8 and 9 are allowable. The remaining dependent claims recite additional advantageous features which further distinguish over the documents relied upon by the Examiner. As such, the present application is in condition for allowance.

All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance and a Notice of Allowance is respectfully solicited.

Respectfully submitted,

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Date: June 19, 2009

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